

Appl. No. 10/733,003

Response dated February 26, 2007

Reply to Office Action of December 5, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend claims 3 and 6. The other claims have been withdrawn.

Listing of Claims:

1. (withdrawn) In a Database Management System (DBMS) holding a base table of information in a Database and using indexes which allow OLE DB applications of a client user to retrieve a selected column of said table without need to access said base table, a system for accessing data from said Database, a method for optimizing a query to said Database comprising the steps of:

- (a) utilizing a "FIND KEY OF" feature to access said selected column thus to avoid the unnecessary inclusion of columns from a disk file data set;
- (b) returning a selected row of information, from said selected column, to said OLE DB application.

2. (withdrawn) The method of claim 1 wherein step (a) includes the step of:

- (a1) accessing a row of selected data using said "FIND KEY OF" which gathers the column data stored in said index.

3. (currently amended) In a Data Management System (DBMS) wherein an Enterprise Database Server operating under a Master Control Program (MCP) operates through a Data Access Module to a Windows client application program having a consumer's data buffer, said system holding a base table of information in a Database and provid[[es]]ing an index structure having index files wherein each index file contains a Key and Pointer which points to a record in said base table, a method for managing database queries for data access by managing overhead operations comprising the steps of:

- (a) fetching a limited set of columns from said base table;

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(b) issuing a database fetch request from said index structure[[]]wherein step (b) includes the step of:

(b1) retrieving column information from said index structure;

(c) enabling Online Embedded Database (OLE DB) applications to access selected columns present in said index structure while eliminating the need to access said base table.

4. (canceled)

5. (canceled)

6. (currently amended) A system wherein an Enterprise Database Server operating under a Master Control Program (MCP) operates through a Data Access Module to a Windows client application program having a consumer's data buffer, said system for optimally accessing a specified column of a row in a database from a Windows based Online Embedded Database (OLE DB) application without eliminating the need to fetch an entire row from a base table, said Database Server providing an Index Structure holding a Key and Pointer to a record in a table and organized with Rowsets where each row has columns of data, said system comprising:

(a) client query means for fetching a limited set of columns from a table[[]]including:

(a1) means to determine if said Rowset was opened with an Index, and if applicable, then;

(a2) means to determine if the command "FIND KEY OF" is applicable for this Index, and if applicable, then;

(a3) means to set the CRowset member variable (m_GetData CanDefer) to TRUE;

(b) checking means to determine which columns are present in the index structure which spans said table;

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(b1) creating an accessor means for setting up bindings for each column in a row that needs to be accessed including where the column data is to be laid out in the consumers data buffer and which includes a binding for each column in a row;

(b2) means to determine if the Rowset was opened with an Index, of said Index Structure and when this occurs then;

(b3) means to check whether said accessor means is a NULL accessor which has no bindings, and where said means to check (b3) indicates it is NOT a FULL accessor, then said means (b3) includes:

(b3a) means to check all bindings including:

(b3a1) means to determine for each binding, if the column is a KEY column or KEYDATA column, and if it indicates a KEY or KEYDATA column then said means (b3a1) includes:

(b3a1a) means to set a CRowset member variable to indicate deferred column fetch and to enable getting data from said Index structure;

(b4) means to indicate that said Row can be fetched from an Index structure;

(c) database fetch request means for fetching a column from only said index structure.

7. (canceled)

8. (canceled)

9. (canceled)

10. (canceled)

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11. (withdrawn) A method for optimizing a query from an OLE DB application in a Data Management System database organized with a base table having rows and columns of data plus an Index Structure with key entries pointing to records in the base table comprising the steps of:

- (a) deciding whether or not it is necessary to access said base table, and if not necessary;
- (b) utilizing a key and/or keydata of an index in said index structure to access said database table columns;
- (c) creating column bindings for only the column data stored in the index structure;
- (d) supplying the data, in response to said OLE DB query, from said index structure.

12. (withdrawn) The method of claim 11 which includes the step of:

- (e) counting, by said OLE DB application, the number of rows in a table while traversing one of the index structures from beginning to end without creating any column bindings.

13. (withdrawn) In a system utilizing an OLE DB to access a Database storing data in tables having rows and columns, said system enabling access to desired data in a rapid efficient manner and comprising:

- (a) means to access desired data from said database by defining column access after first executing access of a desired row.

14. (withdrawn) The system of claim 13 wherein said means (a) to access includes:

- (a1) means to subsequently access said desired column after accession of said desired row.

15. (withdrawn) In a Data Management System (DBMS), accessed by applications utilizing the OLE DB interfaces, a system for optimal retrieval of data from a database means organized

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in base tables of rows and columns correlated to an Index having keys pointing to data records in said base table comprising:

- (a) client-application (100) platform means for accessing and retrieving data from said database (104);
- (b) application program interface means (24) for communication with a Data Provider means (20);
- (c) said data provider means (20) for passing client requests for data to a database server means (104);
- (d) database server means (104) for handling transactions, inquiries and updates.

16. (withdrawn) The system of claim 15 wherein said (c) data provider means (20) includes:

- (c1) data provider object means (25) for passing client requests for data via a transport object (26) and TCP/IP network (22) to a server end module (20B) means;
- (c2) said server end module means (20B) including:
 - (c2a) server library means (28) for managing connections from client work stations;
 - (c2b) worker module means for accessing said database server means (104).

17. (withdrawn) The system of claim 15 which includes:

- (e) means for fetching rows including:
 - (e1) means to determine if deferred column fetch is set for the Rowset, and if yes;
 - (e2) means to check if the session-in-transaction and the isolation level is greater than "Read Uncommitted", and if yes;

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(e3) means to stop the process since Rows cannot be fetched from said Index.

18. (withdrawn) The system of claim 17 wherein said means (e2) to check indicates the session-in-transaction and isolation level is NOT greater than Read Uncommitted, then said system includes:

(e2a) means to send a Defer-Flag to a Worker module in said data provider means to indicate that Rows are to be fetched from Index only.

19. (withdrawn) The system of claim 17 which includes:

(e4) means for updating Rows in said DataBase Server means (104) including:

(e4a) means for determining if a Row has been fetched in a Deferred Mode, and if yes;

(e4b) means to use the bookmark of the Row to fetch the complete row with all its columns.